Progress in a Climate of Change:

A Review of Ontario's Climate Change Action Plan

Annual Report 2007-2008

A Special Report to the Legislative Assembly of Ontario

December 10, 2008

Office of the Environmental Commissioner of Ontario

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Environmental Commissioner of Ontario

Commissaire à l'environnement de l'Ontario

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Commissioner

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Commissaire

December 10, 2008

The Honourable Steve Peters
Speaker of the Legislative Assembly
Room 180, Legislative Building
Legislative Assembly
Province of Ontario
Queen's Park

Dear Mr. Speaker:

In accordance with section 58(4) of the *Environmental Bill of Rights, 1993* (*EBR*), I present the attached Special Report of the Environmental Commissioner of Ontario for your submission to the Legislative Assembly of Ontario. This special report is my independent review of the Ontario Government's progress in reducing greenhouse gas emissions for 2007-08, as outlined in the report titled "Ontario's Climate Change Action Plan: Creating Our Sustainable Future: Annual Report 2007-2008" that was tabled by the Honourable Minister of the Environment in the Legislative Assembly on December 10th, 2008. This is a new role for the ECO and this is my first special report to the Legislative Assembly on this subject.

In my report, I request that the Legislative Assembly consider a series of recommendations that I believe will improve the quality of future greenhouse gas emission reports so that the Ontario public becomes better informed on progress in this important program.

Sincerely,

Gord Miller
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Progress in a Climate of Change
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On December 10, 2008, the Ontario Minister of the Environment, on behalf of the Ontario government, released Ontario's Climate Change Action Plan Annual Report 2007-2008: Creating our Sustainable Future ("the Report"). The intent of the Report has been to document steps taken so far to deliver on the Government of Ontario's Go Green Action Plan On Climate Change, announced in August 2007. The Action Plan notes that it has set "real, achievable goals – reductions in greenhouse gases that will contribute to addressing the defining issue of our generation, and establish a green, competitive economy."

In conjunction with the launch of the Action Plan, the Premier's office announced that tough measures "will be put in place to ensure transparency and accountability. This will include a report back to Ontarians every year in the legislature and an independent review by the Environmental Commissioner on the government's progress in reducing greenhouse gas emissions." This is a new role for the ECO.

Objectives of this ECO Special Report

The purpose of this ECO review ("the Review") is to answer three key questions:

1. Are we are on track to achieve the 2014 greenhouse gas (GHG) target of 166 million tonnes (Mt) identified in the Report?
2. How effective is the suite of initiatives identified in the Report in achieving a GHG reduction of 61 million tonnes per year (Mt/yr) at 2014?
3. What will the ECO expect to see in next year's Report to improve planning [illegible] rency?

Overview

Ontario's August 2007 Climate Change Action Plan is correct in identifying climate change as the defining issue of our time. It is cross-cutting in its dimensions, having impacts on the natural environment, the built environment and the economy. This interconnectedness is both a challenge and an opportunity: a challenge because a "solution" in one area or sector may have unintended consequences elsewhere; and an opportunity because it encourages us to look at natural systems in a holistic manner and to recognize the intrinsic value of our so-called "natural capital". The key message is clear: the natural environment's capacity to store carbon is a limited resource.

The majority of the Report focuses on where the GHG emission reductions targeted for 2014 will originate, by sector, and the role that specific initiatives within each sector may play in reducing greenhouse gas emissions. The commentary in this ECO Review focuses primarily on the issues and assumptions that underpin the government's numbers. It will also highlight areas for improvement in subsequent Reports.

The ECO agrees that the short-term (2014) GHG target is achievable. The ECO also accepts the broad sector allocations that will contribute to achieving the 2014 GHG reductions. What is less clear is the contribution – and timing – of the specific initiatives listed for each sector in the intervening years out to 2014. This highlights the crucial importance of fixing timelines and quantifying reductions as the litmus tests to determining if the reduction targets are realistic and achievable.

The reality of the situation is that the progression in achieving the cumulative reductions out to 2014 (and beyond) will most likely represent a shape more akin to a 'hockey stick', achieving small, incremental savings in the earlier years and ramping-up as programs evolve, tracking improves, expertise accumulates and market transformation progresses.

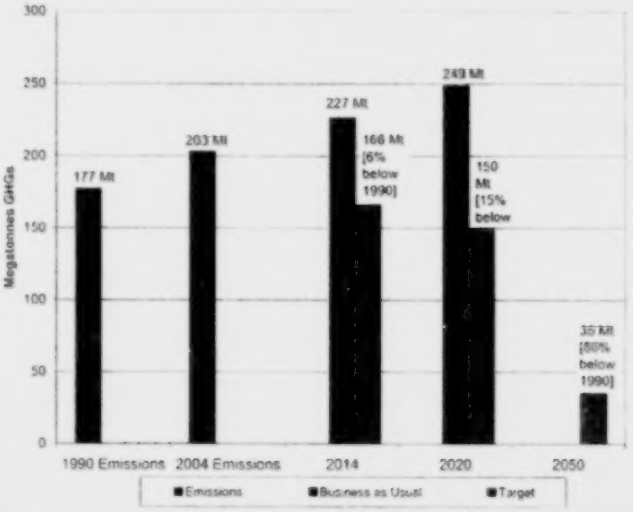
Recommendation 1

The ECO recommends that the Province's Climate Change Action Plan Annual Report 2008-2009 include numbers showing real and projected GHG reductions for each of the sectoral initiatives for the years 2008 to 2014.

Where the GHG Reductions Will Come From By Sector

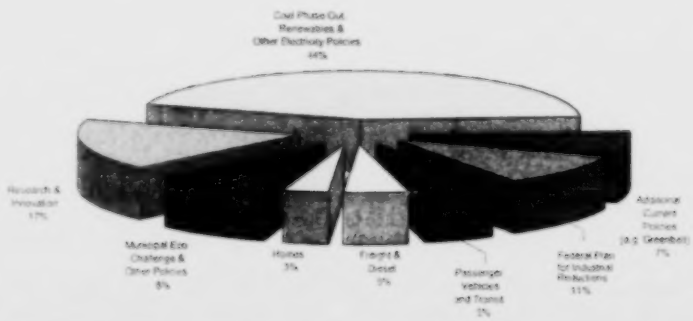
The 2014 GHG target is 166 Mt which is 6 per cent below the province's 1990 emissions. The question becomes what level of reductions are necessary to meet this target given that the normal growth in the economy would result in a much higher emission level than 1990 or even 2007 when the plan was announced. The ministry addressed this issue by projecting a "business-as-usual" scenario based on reasonable economic projections. Under this scenario, the Report notes that GHG emissions would be 227 Mt by 2014 resulting in a projected need for 61 Mt/yr of GHG emission reductions. This has lead to the sectoral allocations noted in Figure 2 from the Report expected to deliver the 61 Mt/yr in reductions by the 2014 target date.

Figure 1: Comparison of GHG Projection Scenarios and Ontario Targets



Source: Ontario Greenhouse Gas Emissions Targets: A Technical Brief, June 2007, Government of Ontario

Figure 2: Where 2014 Reductions Will Come From


Coal Phase Out, Renewables & Other Electricity Policies 44%
Research & Innovation 17%
Municipal Eco Challenge & Other Policies 8%
Homes 3%
Freight & Diesel 3%
Passenger Vehicles and Transit 3%
Federal Plan for Industrial Reductions 11%
Additional Current Policies (e.g. Greenbelt) 7%

Source: Ontario Greenhouse Gas Emissions Targets: A Technical Brief, June 2007, Government of Ontario

However, the ECO notes that 2006 GHGs (the most recent year for which data is available) were 190 Mt/yr, 20 Mt/yr below where the BAU would predict them to be. The Report attributes this reduction to less use of coal-fired electricity and reduced demand for natural gas due to a mild winter in 2006. It will be important for the

government to clarify the extent to which these reductions are permanent or only transitory. If the economic contraction lowers emissions further, then the suite of measures contained in the Report should be additive to produce even lower actual GHG emissions in 2014. As such, it will be important to distinguish between the targets (the government's *commitment*) and progress (the government's *capacity*) to achieve the 61 Mt/yr in reductions at 2014.

Greening the Electric Power Sector

As can be seen from Figure 2, the greatest contribution towards achieving the 2014 target will be the phase-out of coal use at the remaining four coal-fired power plants in Ontario. The Report combines the coal phase-out and improvements to residential buildings and indicates that nearly 50 per cent of the total 2014 reductions – ~ 29 Mt/yr – can be achieved from these sector initiatives. However, the phase-out of coal does not necessarily mean the closure of these thermal generating plants. For example, the Report notes that 4,400 MW of new, natural gas-fired power has been contracted, with 430 MW already online. The province's Climate Change Action Plan will need to ensure that GHG reductions from the phase-out of coal are "net" of any GHGs resulting from the use of natural gas.

The Report remains silent on the role that nuclear power will play in the years ahead. The province's Integrated Power System Plan (IPSP) includes plans to build new and refurbish existing reactors. Currently, nuclear generation accounts for about 50 per cent of Ontario's electricity output. It is further expected to reach an installed capacity of 14,000 Megawatts (MW) by 2025, with little indication in the Report as to how this will help contribute to future emission reduction targets. It is important to note that as the generation mix shifts to more nuclear and greater renewables, the GHG reductions claimed from reducing electricity use through other projects becomes less.

It is encouraging to note the important role that the Report assigns to renewables and other electricity policies in reducing our dependence on fossil fuel-fired electric power. The Report indicates that the Renewable Energy Standard Offer Program (RESOP) has signed contracts for an additional 2,600 MW of "cleaner, greener" power, including 500 MW from solar electric applications.

Greening the Economy

The next three most important sectors in terms of contributions to the 2014 reduction target are industrial initiatives (11 per cent), sustainable communities (15 per cent), and research and innovation focusing on the broader economy (17 per cent). These three account for just over 40 per cent of the 2014 target.

The Report contains a discussion of initiatives that will achieve these reductions, including updating the Ontario Building Code, planning reform (especially creating more compact growth in the Greater Golden Horseshoe through the *Places to Grow Act, 2005*), putting a price on carbon (through a cap-and-trade system) and fostering innovative technology research funding and investment in new jobs.

The ECO supports initiatives that will reduce GHG emissions through the encouragement of more compact urban form, through updating the Building Code and through energy technology research and development. Forecasting the contributions these initiatives make in achieving the province's GHG reduction targets will be complex and challenging. These initiatives are strategic in nature and the challenge is going to be tracking and attributing their contributions to the 2014 target. Indeed, many of these initiatives, by their strategic nature, are unlikely to yield their greatest impacts until well beyond 2014.

The importance of greening the building stock was covered in the ECO's 2007-2008 Annual Report. The building stock in Ontario accounts for between 35 to 40 per cent of Ontario's GHG emissions and this sector presents a significant opportunity to reduce GHG emissions. However, there are significant challenges ahead associated with financial constraints and a shortage of skilled labour, for example, to install and maintain solar heating and solar power equipment, or other green building infrastructure.

The Report notes that just over 10 per cent of industrial GHG reductions will come from the "Federal Plan for Industrial Reductions". The primary focus in this section of the Report is on pricing carbon and the role that a cap-and-trade system and carbon offsets could play in reducing industrial GHG emissions. The ECO is encouraged to see initiatives discussed in the Report designed to "put a price on carbon". However, more thought will need to be given to how Ontario's membership in the Western Climate Initiative (WCI) and the Regional Greenhouse Gas Initiative (RGGI), plus its recent signing of a Memorandum of Understanding with the Province of Quebec – all of which are designed to collaborate on developing a cap-and-trade system for GHGs – will relate to any future federal government initiatives in this area.

For example, the Report does not provide enough information on how a cap-and-trade system based on absolute emission reductions – the approach being taken by the Ontario government – will be reconciled with the approach based on reductions in emissions *intensity* as favoured by the federal government. In addition, it is confusing that the Report's labelling of the "industrial" wedge in Figure 2 above as *Federal Plan for Industrial Reductions,* bears no relation to the actual discussion of a WCI-based cap-and-trade system. The Report's discussion is really about the Ontario government's plans. More details are required in order to understand the implications of a potential patchwork of trading schemes and what this may have on the fungibility of emission credits or offsets derived in Ontario.

It is understood that issues dealing with the design and architecture of a cap-and-trade system will be the topic of future discussions under the auspices of the WCI. It is not expected that the WCI system will be up and running before 2012. As a result, the ECO finds it difficult to determine what contribution, in Mt/yr, an industrial cap-and-trade system will have on meeting the 2014 GHG reduction target.

One major disadvantage with the exclusive reliance on a cap-and-trade system for pricing carbon is that it only targets about 50 per cent of the economy's GHGs – those produced by large industry. There are other ways to price carbon. For example, the Government of British Columbia has introduced a carbon tax that came into effect in July 2008. The tax is based on the carbon content of fossil fuels. Currently pegged at $10/tonne, the tax will increase by $5/tonne each year until it reaches $30/tonne in 2012. The revenues derived from the tax are expected to reach just under $2 billion by 2012. The monies will not go to general revenues, nor will they fund other government programs. Instead, they will be redirected back in the economy in the form of lower rates of personal income tax and reductions in corporate tax rates.

The role that a carbon tax could play in sending clearer price signals to all sectors of the economy should be considered by the MOE. Consideration will also need to be given to carbon pricing and trading developments in the United States as the new Administration in Washington addresses this issue early in 2009 and beyond.

The Report's discussion about the use of carbon offsets briefly mentions offset protocol development work in Ontario but there is no discussion about the similar work underway at the federal level. The ECO remains concerned about the perceived duplication of efforts between the federal government and Ontario in the area of offset protocol development.

Recommendation 2

The ECO recommends that clarification be obtained as soon as possible to determine offset protocol equivalency provisions between the federal government and the Government of Ontario.

The Report has also identified pilot offset projects planned in both the agriculture and forestry sectors, specifically mentioning reduced-till and no-till farming practices. As the ECO noted in its 2007-2008 Annual Report, "conservation tillage represent[s] widespread 'best practices' that are routinely undertaken already … Carbon offset measures should support the development and implementation of new practices or the application of new technologies . . . [beyond] business-as-usual . . ."

Greening Transportation

The transportation sector is responsible for about 30 per cent of Ontario's total GHG emissions. According to the Report, the transportation sector will deliver about 10 per cent of the 2014 GHG reduction target. The key initiatives identified to achieve this contribution are the MoveOntario 2020 rapid transit action plan. Related initiatives include a focus on green procurement of fleet vehicles, the carbon content of transportation fuels and the introduction of technologies to lower the GHG emissions of transport trucks.

The cornerstone of the green transportation initiative is the MoveOntario 2020 program. Crucial to this initiative is Metrolinx – the former Greater Toronto Transportation Authority. When fully implemented, the Metrolinx plan will ensure that 75 per cent of Greater Toronto and Hamilton Area residents will live within 2 kilometres of a dedicated transit line. This involves a complex and ambitious suite of initiatives, requiring co-ordination between the MoveOntario 2020 plan, the Metrolinx initiatives and the *Places to Grow Act, 2005* as the province attempts to accommodate significant population

growth over the next 25 years. How this co-ordination is going to occur is not supported by any discussion, nor is there any indication of how and when these initiatives will deliver GHG reductions.

The provisions highlighted in the Report regarding a co-ordinated effort to reduce tail pipe emissions are strongly supported by the ECO. Certainly, the right signals are being sent. As the ECO noted in its 2007-2008 Annual Report, "making such a major investment in transit over a long period of time sends a strong signal to residents that they will be able to rely on transit for a significant portion of their travel needs." However, the Report provides little in the way of detailed analysis to clarify or quantify how 10 per cent of the 2014 GHG reduction target will be delivered through transportation-related initiatives.

The Report does refer to Ontario Regulation 231/08, which became law in June 2008 "and provides for a maximum duration of six months for Environmental Assessments for public transit projects." The ECO is sensitive to the need for streamlining the EA process as it relates to encouraging commuters to shift modes away from single-occupant vehicles to a greater reliance on public transit. However, implications for GHG reductions of these public transit initiatives within the 2008-2014 reporting period are not entirely clear. The ECO will continue to review the O. Reg. 231/08 decision and monitor developments in its 2008-2009 Annual Report.

Greening the Government

Recognizing the role that government can play in demonstrating climate change leadership, the Report outlines several initiatives that the Ontario government has taken in the past year to reduce its overall environmental footprint. These include the adoption of Leadership in Energy and Environmental Design (LEED) as the design standard for

new and renovated buildings in 2007 and the installation of a green roof at the Ontario Science Centre.

The ECO is pleased to see the recent creation of the Ontario Public Service Green Office which will serve to coordinate 'greening' activities across all provincial government operations. It is hoped that this office will not only be provided with adequate staffing and funding, but that its mandate will include the ability to set policy, collect and disseminate information, coordinate programs and evaluate progress in order to "ensure a sufficient intensity of greening across the government."

As part of an overall strategy to ensure conservation initiatives are implemented across all ministries, the government enacted the *Energy Conservation Leadership Act, 2006*. Pursuant to the Act, energy conservation plans are to be prepared and regular reports on progress are to be provided by various ministries and agencies. To date, regulations have not yet been enacted which would give effect to the requirements of the Act. The ECO continues to urge the government to take action in this area in order to demonstrate clear leadership.

Finally, through a number of programs, such as energy retrofits and the replacement of inefficient lighting, the government has reduced its overall energy consumption 12 per cent between 2004/05 and 2006/07 and a further 10 per cent reduction is targeted for 2012. While these reductions are to be applauded, the ECO urges the government to continue to expand its programs beyond those primarily focused on electricity consumption and to explore other mechanisms to reduce GHG emissions.

Recommendation 3

The ECO recommends that the newly created Ontario Public Service Green Office be provided with adequate staffing and funding, and that its mandate include the ability to set policy, collect and disseminate information, coordinate programs and evaluate progress in order to enhance the process of greening across the government.

The Role of Climate Change Adaptation

The Report focuses primarily on establishing the "roadmap" for reducing GHG emissions, referred to as 'mitigation'. However, the Report is correct in noting that "the effects of climate change are already upon us." Hence the need for 'adaptation' to respond to and take actions to minimize the coming impacts of climate change. And, as noted in the ECO Annual Report 2007-2008, "these impacts will affect public and private infrastructure, the natural environment, and the lives and well-being of people and other species."

Adaptation challenges will be particularly onerous for northern communities, habitats and species. The Report mentions the decision by the Premier earlier this summer to protect at least 225,000 square kilometres of Ontario's Far North Boreal Forest. "The region is home to more than 200 sensitive species of animals – such as caribou and wolverines and, at the highest reaches of the Far North, polar bears". The ECO agrees with the Report that protecting these spaces will help to protect the province's biodiversity and the ECO further supports the Report's reference to the funding of adaptation research focusing on Ontario's polar bear population.

The Report describes this boreal forest area as a significant carbon sink, absorbing approximately 12.5 Mt/yr of CO2 from the atmosphere. However, there is no discussion about what future increases in temperatures in the far north will do to rates of carbon sequestration, nor is there any discussion in the Report about how the impacts of climate change will bear on the GHG reduction targets identified in the Report.

The Report notes the formation, in 2007, of the Premier's Expert Panel on Climate Change Adaptation. The ECO welcomes the formation of this expert panel but has concerns that the Ontario government has not made sufficient progress in this important area. The Ministry of the Environment and the Ministry of Natural Resources are two key government departments whose future planning will be crucial to the development of adaptation plans. However, these two ministries have still not produced an approved climate change adaptation strategy. The ECO notes further in its Annual Report 2007-2008 that few provincial codes, policies or infrastructure plans have been modified to adapt to the changes in climate that are coming.

Recommendation 4

The ECO recommends that both the Ministry of Natural Resources and the Ministry of the Environment work closely with the Premier's Expert Panel on Climate Change Adaptation to ensure that, by the 2008-2009 Annual Report, they have in place an approved climate change adaptation strategy.

The Crucial Importance of Tracking Progress

While the initiatives identified in the Report are published under the auspices of the Ministry of the Environment, it is recognized that virtually all government ministries, agencies and related stakeholders will have a role to play in delivering on the plan's initiatives. The Report indicates that the newly formed Ontario Climate Change

Secretariat (CCS) will "achieve the results envisioned in Ontario's Climate Change Action Plan."

The ECO understands that the CCS will be responsible for the design and on-going management of a tracking system to assess the success of the plan in achieving it's short-term (2014), medium-term (2020) and long-term (2050) GHG reduction targets. However, the Report provides limited discussion about the tracking architecture and how it will function and the role of the CCS in its design and administration.

A "process map" or schematic showing how the CCS will work with, and co-ordinate the actions of, other ministries and stakeholders is a critical next step. Otherwise, there is little ability to determine whether we are on track to achieve the 2014 GHG reduction target. The ECO expects to see a map of the process by this time next year.

The issue of tracking is fundamental to making course corrections and to re-evaluating the design and performance assumptions around the initiatives that are expected to achieve the GHG reductions. This is particularly critical over the short-term and, while the ECO believes that the 2014 target of 6 per cent below 1990 levels of GHG emissions is achievable, detailed reporting of each indicator's success, converted to CO_2e Mt is essential determining progress.

The Report includes an Appendix H relating to the review of key initiatives and the quantitative indicators that will be used to track progress in achieving GHG reductions. As noted in this Appendix, the Climate Change Secretariat is "responsible for collection and presentation of the indicators and information" within this and future Annual Reports. The ECO expects the role of the Climate Change Secretariat in providing strategic support regarding policy and program development, business planning and communications – as well as the tracking of results – to be more clearly articulated by next year's Report.

Conclusions

The ECO has commended the Ontario government for the creation of its Climate Change Action Plan. In the context of this first Annual Report, the ECO accepts that the 2014 target is achievable and that the sector contributions for achieving the GHG reductions presented in the report are a reasonable allocation for planning purposes. Quantifiable GHG reductions, fixed timelines and realistic targets are the cornerstone to any plan designed to reduce greenhouse gas emissions. Real numbers are absent from this plan, however, we recognise that it is early in the implementation process. This is why we are pleased to see a reference in the Report that, "[f]uture progress reports will provide more detailed information on GHG emission reductions, and the methodology used to calculate emissions and sectoral trends." The ECO believes this is fundamental to an understanding of how the plan is progressing towards meeting its short-term, medium-term and, most important, its long-term GHG targets. We intend to hold the ministry to this commitment.

2007-2008 Recommendations

Recommendation 1

The ECO recommends that the Province's Climate Change Action Plan Annual Report 2008-2009 include numbers showing real and projected GHG reductions for each of the sectoral initiatives for the years 2008 to 2014.

Recommendation 2

The ECO recommends that clarification be obtained as soon as possible to determine offset protocol equivalency provisions between the federal government and the Government of Ontario.

Recommendation 3

The ECO recommends that the newly created Ontario Public Service Green Office be provided with adequate staffing and funding, and that its mandate include the ability to set policy, collect and disseminate information, coordinate programs and evaluate progress in order to enhance the process of greening across the government.

Recommendation 4

The ECO recommends that both the Ministry of Natural Resources and the Ministry of the Environment work closely with the Premier's Expert Panel on Climate Change Adaptation to ensure that, by the 2008-2009 Annual Report, they have in place an approved climate change adaptation strategy.

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